

Remarks

Claims 1, 5 and 12 are amended. Claims 1 to 14 are pending in this application of which only claim 1 is in independent form.

On page 2, paragraph 1, of the action, claims 1 and 5 were objected to because of the informalities listed. Claims 1 and 5 are amended herein to correct these informalities so that the claims should now be acceptable.

Claim 1 was rejected under 35 USC 102(b) as being anticipated by Feichtinger. The following will show that claim 1, as amended, patentably distinguishes the invention over this reference.

FIG. 1 of Feichtinger shows a diameter measuring apparatus having two diametrically arranged moveable measuring rods 2 and 3. An electrically actuatable blocking device is provided in order to prevent a dipping of the measuring rod into interruptions such as slots in an otherwise round workpiece. The electrically actuatable blocking device is in the form of an electrically actuatable braking shoe 12 as shown in FIG. 2 of this reference. FIG. 4 of Feichtinger shows a grinding machine having a measuring device with only one moveable measuring rod 2. In order to also here prevent a dipping of the measuring rod into an interruption, an electrically actuatable blocking device in the form of an electrical actuatable brake shoe 12 is also provided (please see FIG. 2).

In contrast to Feichtinger, the applicants' invention is directed to a probe head for a coordinate measuring apparatus and

is in no way related to the measuring apparatus of Feichtinger because in Feichtinger, a diameter/elevation can be measured in only one dimension. The measuring head of Feichtinger could not be purposefully used for a coordinate measurement in present day coordinate measuring apparatus. Furthermore, there is no suggestion in Feichtinger which could lead our person of ordinary skill to hit upon the feature and limitation of providing:

"a plurality of measuring systems for measuring a deflection of said yielding part in respective directions;" (emphasis added)

as set forth in applicants' claim 1.

In the above, it can be seen that the applicants' probe head incorporates several measuring systems for different measuring directions.

In addition, the probe head of applicants' claim 1 includes a damping device for damping the yielding part in a pregiven direction as set forth in claim 1 with the clause:

"a damping device for damping said yielding part in a pregiven direction;"

This element of the applicants' invention is completely omitted in the measuring apparatus of Feichtinger. What is interpreted as a damping device in the action is actually a clamping device in Feichtinger. More specifically, this clamping device functions exclusively for blocking of the diameter measuring apparatus of the grinding machine. In addition, there is no suggestion in this reference that the friction force can be changed electrically as in applicants' claim 1 with the clause:

"said damping device including at least one friction brake for generating a friction

force to effect said damping with said friction force being electrically changeable."

In the blocking device of Feichtinger, there is only an on/off and a change of the force cannot be made.

In view of the above, applicants submit that claim 1, as amended, patentably distinguishes the invention over Feichtinger and should be allowable.

Claim 1 was also rejected under 35 USC 102(b) as being anticipated by Ruck et al. The applicants will now show that their claim 1 also patentably distinguishes their invention over this reference.

Ruck et al is directed to a probe head for a coordinate measuring apparatus having several damping devices for damping the deflection of the probe head. The damping devices here are electromagnetically operating plunge coil drives.

The probe head defined in applicants' claim 1 differs significantly from Ruck et al because the damping device in the applicants' probe head includes at least one friction brake for generating a friction force which can be changed electrically as defined in the last clause of claim 1 quoted above. In the action, the three measuring force generators referred to at column 4, lines 42 to 46, of Ruck et al are interpreted as being a friction brake. Applicants respectfully disagree with this interpretation because these measuring force generators are electromagnetically operating plunger coil drives as explained, for example, at column 3, lines 58 to 65, of this reference. Accordingly, it is not seen how our person of ordinary skill could hit upon the idea of a friction brake for generating a

friction force as set forth in applicants' claim 1 so that claim 1 should also patentably distinguish the applicants' invention over this reference.

Claim 1 was also rejected under 35 USC 103(a) as being unpatentable over Scarrott et al in view of Ruck et al. The applicants will now show that claim 1, as amended, also patentably distinguishes their invention over this combination of references.

Scarrott et al discloses a frictional coupling device wherein a rotatably journalled shaft 12 can be coupled to a housing. This reference bears no relationship to a probe head for a coordinate measuring apparatus. The frictional coupling device of Scarrott et al also suggests no plurality of measuring systems for measuring the deflection of the yielding part in respective directions as defined in applicants' claim 1. In addition, the frictional coupling device is not a damping device for damping the yielding part in a pregiven direction. On the one hand, the frictional coupling device functions to couple the rotatably journalled shaft 12 to the remainder of the component and performs no damping function and, on the other hand, there is no pregiven direction with the rotation about an axis because there is no movement in a specific direction but instead there is only a rotation about an axis.

It is not seen how the frictional coupling device of Scarrott et al can be combined with the subject matter of Ruck et al to arrive at the applicants' invention. More specifically, there is no thread in either reference which would lead our person of ordinary skill to the other reference so that it is not

possible for our artisan to combine these two references. But even if by some happenstance, our person of ordinary skill had these two references to consider, this still would not enable our artisan to come up with the friction brake now so carefully defined in applicants' claim 1.

In view of the above, applicants submit that claim 1 also patentably distinguishes their invention over the combination of Scarrett et al and Ruck et al and should now be allowable.

The remaining claims 2 to 14 are all dependent from claim 1 so that these claims too should now be allowable.

Reconsideration of the application is earnestly solicited.

Respectfully submitted,



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